

Notice of Allowability

Application No.

10/606,528

Applicant(s)

LEE ET AL.

Examiner

Ian N. Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/26/2003.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 6-26-03
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application
- ☒ Interview Summary (PTO-413),
Paper No./Mail Date 3-21-07
- ☒ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other _____

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Eric Hyman on March 22, 2007.

The application has been amended as follows:

- In the abstract, "**The present invention relates to a**" in line 1, has been replaced with "**A**".
- In the abstract, "**of the present invention**" in line 3, has been removed.
- In the abstract, "**of the present invention**" in line 7, has been removed.
- **Claim 1**, line 3, "**at said base station:**" has been inserted in a new line between "comprising:" and "(a) initializing a contention".
(e.g.... comprising:
at said base station:
(a) initializing a contention...)
- **Claim 5**, line 4, open and close parenthesis "(...)" has been removed from "contention window size – status value".
- **Claim 6**, line 3, "**at said terminal:**" has been inserted in a new line between "comprising:" and "(a) receiving a total number".

(e.g... comprising:

at said terminal:

(a) receiving a total number ...)

- **Claim 6**, line 9, “**the** next frame” has been replaced with “**a** next frame”.
- **Claim 6**, line 12, “**a** base station” has been replaced with “**the** base station”.
- **Claim 6**, line 14, “**the** previous frame” has been replaced with “**a** previous frame”.

Allowable Subject Matter

2. Claims 1-9 are allowed.

3. The following is an examiner’s statement of reasons for allowance:

Claims 1-9 are allowable over the prior art of record since the cited reference taken individually or in combination fails to particularly disclose or fairly suggests the following *italic* limitations:

In claim 1, ... *(e) ...setting...based on whether the contention window size is "0" or not when ...terminals has experienced a collision...(f) setting ... in response to a decrease in a number of terminals...in the case that the corresponding mini slot has been successfully received ...setting ...in the case that the corresponding mini slot has been received with unused state and the contention window size is smaller than or equal to "0" when a collision has not occurred ...* in combination with other limitations recited as specified in Claim 1.

In claim 6, ... *(e) determining whether the contention window size received...is "0" or is smaller than the contention window size in the previous frame; and (f) determining access to the selected mini slot has been successful when the contention window size is "0" or is smaller than*

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the contention window size of the previous frame ...and in combination with other limitations recited as specified in Claim 6.

Note that the first closest prior art **Ruszczyk** (US005960000A) discloses, per FIG. 1,9 a headend unit 110 is coupled to a plurality of AIUs 120_a through 120_n (collectively referred to as IUs 120) via a shared channel 130. In the preferred embodiment, the shared channel 130 is one of a number of communications channels carried by a shared physical medium such as a hybrid fiber-optic/coaxial cable (HFC) or wireless network. The headend unit is typically situated at a common receiving end of the shared channel and is able to transmit messages to all MAC Users that share the channel. The headend unit coordinates access to the shared channel by sending control messages to the MAC Users which enable one or more MAC Users to transmit. MAC Users only transmit when enabled to do so by the headend unit. In particular, **regarding claim 1**, Ruszczyk discloses a method for resolving collisions in a base station of a communication system using medium access control based on contention, comprising: (a) initializing a contention window size and a status value; (b) broadcasting information on a total number of mini slots and a contention window size to each terminal; (c) receiving corresponding mini slot in response to access attempt of any terminal or terminals for resource allocation; (d) determining whether each terminal has experienced a collision, from the information on the mini slots received in (c); and portions of steps e and f, in FIG. 8-11 and 13-14, and in col. 7, line 55 to col. 12, line 40. Similarly, **regarding claim 6**, Ruszczyk discloses a method for resolving a collision in each terminal of a communication system using medium access control based on contention, comprising: (a) receiving a total number of mini slots and a contention window size of each mini slot from a base station; (b) selecting any one mini slot for an access attempt and

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determining whether a contention window size corresponding to the selected mini slot is "0"; (c) abandoning accessing of the selected mini slot and standing by for the next frame when the contention window size is not "0" in (b); (d) attempting to access the selected mini slot when the contention window size is "0" in (b), and receiving the total number of mini slots and a contention window size of each mini slot from a base station; and portion of steps e and f, in FIG. 8-11 and 13-14, and in col. 7, line 55 to col. 12, line 40.

Note that the second closest prior art **Chuah** (US006115390A) discloses, per FIG. 2, depicted in FIG. 2, end systems (remote hosts) 232 connect to wireless network 230 via external or internal modems. These modems allow end systems 232 to send and receive medium access control (MAC) frames over air link 234. If used, an external modem may be attached to PC or other end system 232 via a wired or wireless link. Wide-area wireless coverage is provided by base stations (access points) 236. In particular, Chuah discloses, **regarding claim 1**, a method for resolving collisions in a base station of a communication system using medium access control based on contention, comprising: (a) initializing a contention window size and a status value; (b) broadcasting information on a total number of mini slots and a contention window size to each terminal; (c) receiving corresponding mini slot in response to access attempt of any terminal or terminals for resource allocation; (d) determining whether each terminal has experienced a collision, from the information on the mini slots received in (c); and portions of steps e and f, in FIG. 8-10 and methods 13-15,18, and in col. 16, line 45 to col. 17, line 60; see col. 20, line 10-45; see col. 21, line 30 to col. 24, line 56. Similarly, **regarding claim 6**, Chuah discloses a method for resolving a collision in each terminal of a communication system using medium access control based on contention, comprising: (a) receiving a total number of mini slots and a

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contention window size of each mini slot from a base station; (b) selecting any one mini slot for an access attempt and determining whether a contention window size corresponding to the selected mini slot is "0"; (c) abandoning accessing of the selected mini slot and standing by for the next frame when the contention window size is not "0" in (b); (d) attempting to access the selected mini slot when the contention window size is "0" in (b), and receiving the total number of mini slots and a contention window size of each mini slot from a base station; and portion of steps e and f, in FIG. 8-10 and methods 13-15,18, and in col. 16, line 45 to col. 17, line 60; see col. 20, line 10-45; see col. 21, line 30 to col. 24, line 56.

However, neither Ruszczyk nor Chuah, standalone or in-combination, fails to disclose or render obvious the above *Italic* limitations as claimed.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N. Moore whose telephone number is 571-272-3085. The examiner can normally be reached on 9:00 AM- 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 571-272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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5/4/07



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